

CLAIMS

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A pouch machine comprising:

a controller;

a first module, including a first converting station, wherein the controller is operatively connected to the first converting station, and wherein the first module further includes a first operating parameter output; and

a second module, including a second converting station, wherein the second module further includes a second operating parameter input, connected to the first operating parameter output such that the controller is operatively connected to the second converting station.

2. The pouch machine of claim 1, further comprising a third module, including a third converting station, wherein the third module further includes a third operating parameter input and the second module further includes a second operating parameter output, connected to the third operating parameter input such that the controller is operatively connected to the third converting station.

3. The pouch machine of claim 2 wherein:  
the first converting station is an infeed station;  
the second converting station is one of the group consisting of a zipper sealer station, a long sealer station, a cross sealer station, a cross seal extension station, and a slider station; and

7 the third converting station is one of the group  
8 consisting of a zipper sealer station, a long sealer  
9 station, a cross sealer station, a cross seal extension  
10 station, and a slider station.

1 4. The pouch machine of claim 3, further  
2 comprising a fourth module, including a cut-off station,  
3 wherein the fourth module further includes a fourth  
4 operating parameter input and the third module further  
5 includes a third operating parameter output, connected to  
6 the fourth operating parameter input such that the  
7 controller is operatively connected to the fourth converting  
8 station.

1 5. The pouch machine of claim 3, wherein the  
2 first, second and third modules have interconnected power.

1 6. The pouch machine of claim, further  
2 comprising a common user interface.

1 7. A pouch machine comprising a plurality  
2 of self-contained modules configured in a daisy-chain,  
3 wherein, any successive module receives operating  
4 parameters from a preceding module, and wherein each  
5 module includes a converting station.

1 8. The pouch machine of claim 7, wherein the  
2 plurality of modules includes a first module, at least one  
3 succeeding intermediate module, and a last module, and  
4 wherein the first module includes an infeed station, each  
5 intermediate module includes a converting station from one  
6 of the group consisting of a zipper sealer station, a long  
7 sealer station, a cross sealer station, a cross seal

8 extension station, and a slider station, and the last module  
9 includes a cut-off station.

1 9. A method of making a pouch machine comprising:  
2 providing a controller;  
3 selecting a first module that has a first  
4 converting station;  
5 operatively connecting the controller to the  
6 first converting station;  
7 providing a first operating parameter output;  
8 selecting a second module that has a second  
9 converting station;  
10 connecting a second operating parameter input  
11 to the first operating parameter output, thereby  
12 operatively connecting the controller to the second  
13 converting station.

1 10. A pouch machine comprising:  
2 a first processing zone, including a first  
3 processing station along a film path, a first  
4 registration sensor along the film path, and a first  
5 drawroll, responsive to the first registration sensor,  
6 along the film path; and  
7 a second processing zone, including a second  
8 processing station along a film path, a second  
9 registration sensor along the film path, and a second  
10 drawroll, responsive to the second registration sensor,  
11 along the film path, wherein the film path extends from  
12 the first processing zone to the second processing  
13 zone.

1 11. The pouch machine of claim 10, wherein the  
2 sensor is an optical sensor capable of detecting print  
3 registration marks.

1 12. The pouch machine of claim 10, wherein the  
2 first and second processing station are from the group  
3 consisting of a zipper sealer station, a long sealer  
4 station, a cross sealer station, a cross seal extension  
5 station, and a slider station, and the last module includes  
6 a cut-off station.

1 13. The pouch machine of claim 12 wherein the  
2 first processing station is a different one of the group  
3 than the second processing station.

1 14. The pouch machine of claim 10, wherein the  
2 processing station is at a fixed location.

1 15. The pouch machine of claim 10 wherein the  
2 first processing zone includes a first accumulator along the  
3 film path and the second processing zone includes a second  
4 accumulator along the film path.

1 16. The pouch machine of claim 10, wherein a  
2 third processing zone is disposed along the film path  
3 between the first and second processing zones, wherein the  
4 third processing zone does not have a draw roll.

1 17. A pouch machine comprising a first plurality  
2 of processing zones, each including a processing  
3 station along a film path, a registration sensor along  
4 the film path, and first drawroll, responsive to the  
5 registration sensor, along the film path, wherein the  
6 processing zones are along a common film path.

7 18. The pouch machine of claim 17, further  
8 comprising a processing zone without a drawroll disposed

9 along the film path between two of the first plurality of  
10 processing zones.

1 19. The pouch machine of claim 18 wherein each of  
2 the first plurality of processing zones includes an  
3 accumulator along the film path.

1 20. The pouch machine of claim 18, wherein the  
2 processing zones are self-contained modules configured in a  
3 daisy-chain, wherein, any successive module receives  
4 operating parameters from a preceding module, and wherein  
5 each module includes a converting station.

1 21. A pouch machine comprising:  
2 a plurality of processing devices, each  
3 disposed along a film path;  
4 an edge sensor disposed along the film path;  
5 a draw roll assembly, disposed along the film  
6 path, wherein the drawroll assembly has a direction of  
7 draw, and wherein the drawroll assembly is mounted on a  
8 moveable frame such that the draw direction changes as  
9 the frame moves; and  
10 a controller disposed to receive a signal  
11 from the edge sensor and control the position of the  
12 frame in response thereto.

1 22. The pouch machine of claim 1, further  
2 comprising a second moveable draw roll assembly and a second  
3 edge sensor.

1 23. The pouch machine of claim 21, wherein the  
2 sensor is downstream of the drawroll assembly.

3           24. The pouch machine of claim 21, wherein the  
4 frame moves in an arc about a center located upstream of the  
5 frame.

1           25. The pouch machine of claim 24, wherein the  
2 draw direction is in a substantially horizontal plane and is  
3 changed from being in the machine direction to angled in  
4 either direction away from machine direction.